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AEDC: 25 years of supporting the warfighter for AFMC

By AEDC Public Affairs

With more than two decades now under its wing, Air Force Materiel Command has provided 25 years of support to America's warfighters.

Since the dedication of the AFMC July 1, 1992, AEDC, an Air Force Test Center organization, has played a major role in warfighter development.

Headquartered at Wright-Patterson AFB, Ohio, the command is based on the concept of Integrated Weapons System Management. This concept enables one command to provide "cradle to grave" development and support for weapon systems and gives Air Force operational commands a single source of expertise and support for their aerospace systems.

AFMC is responsible for weapon systems such as aircraft, missiles and spacecraft that are developed and acquired through AFMC's product centers, using science and technologies developed at their affiliated laboratories. The systems are then tested at the command's test centers and are serviced, overhauled and modified at its air logistics centers. At the end of their service lives, aircraft are retired to AFMC's storage and reclamation facility in Arizona.

AFMC also provides support to other U.S. military services and allies in addition to its responsibility of handling major aerospace projects for the DOD.

AEDC is one of the main test and evaluation organizations for the AFMC's AFTC. Based out of Arnold AFB, AEDC also has operating locations at the Federal Research Center at White Oak near Silver Spring, Maryland; at Ames Research Center, in Mountain View, and at Edwards AFB, California; Eglin AFB, Florida; Holloman AFB, Kirtland AFB, New Mexico; and at Wright-Patterson AFB. AEDC offers a suite of test capabilities to simulate speed, temperature, pressure and other parameters over a wide range to meet the needs of aerospace system developers.

The Complex has provided AFMC with 25 years of testing the latest warfighters, such as the Air Force's F-22A Raptor and its Pratt & Whitney F119 engine, and the F-35 Lightning II Joint Strike Fighter and the Pratt & Whitney F135 engine.

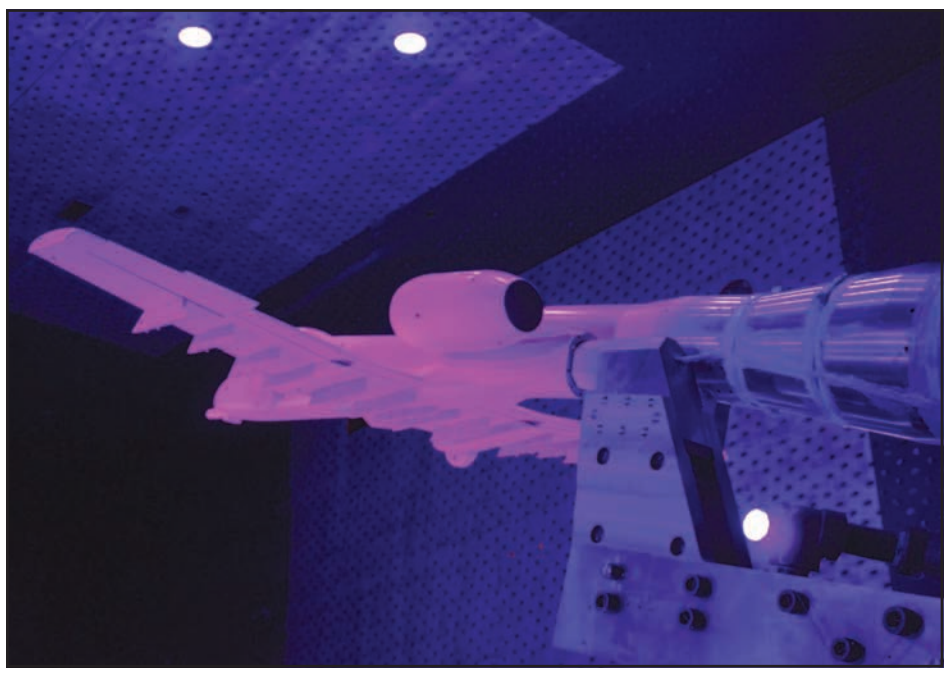
Accelerated Mission Testing (AMT) of the F135-PW-100 Conventional Take Off and Landing/Carrier Variant (CTOL/CV) has taken place in the sea level test cells at Arnold Air Force Base. The F135 engine has been tested at Arnold since 1999.

Testing in the AEDC aerodynamic wind tunnels have even helped prepare the Navy variant of the F-35 Joint Strike Fighter for its first external weapons release. It's been estimated that the 1/15th scale Lockheed Martin F-35 model has been tested in the AEDC 4-foot transonic wind tunnel for more than 3,300 user occupancy hours.

In addition, store separation testing of the Advanced Short Range Air-to-Air Missile has been conducted in AEDC wind tunnels. Separation testing of the ASRAAM, also known as the AIM-132, with the F-35 was last performed in the 4-foot transonic aerodynamic wind tunnel at the Propulsion Wind Tunnel facility in 2008. The test objective was to investigate the separation characteristics of several armaments, which included the AIM-132 as well as the AIM-9X, AIM-120C,

See **SUPPORTING**, page 2

Col. Kurt Gallegos, the 944th Fighter Wing commander, leads a four-ship formation with the A-10 Thunderbolt II, F-35 Joint Strike Fighter and F-15 Strike Eagle, during his fini-flight near Luke Air Force Base, Ariz., June 2. Scale models of the A-10, F-35 and F-15 have all undergone testing in the AEDC wind tunnel test facilities, and the Pratt & Whitney F135 engine for the F-35 has completed Accelerated Mission Testing in the sea level engine test cells at Arnold Air Force Base. ***(U.S. Air Force photo/Tech. Sgt. Larry E. Reid Jr.)***



AEDC contributions to the warfighter

A model of an A-10 Thunderbolt II, more commonly known as "The Warthog" due to its unique shape, underwent a pressure-sensitive paint (PSP) test in the AEDC 16-foot transonic wind tunnel in 2013. PSP was used to get surface pressure data on the model. ***(U.S. Air Force photo)***

Maj. Gen. Harris speaks at 2017 AEDC Fellows Banquet

Maj. Gen. David A. Harris, the Air Force Test Center commander and speaker for the 2017 AEDC Fellows Banquet, is shown with retired Maj. Gen. Mike Wiedemer, AEDC Fellow and Arnold Community Council Fellows Committee chairman, at Arnold Air Force Base June 23. Five current and former AEDC employees were inducted as AEDC Fellows during the banquet. ***(Courtesy photo/ Claude Morse)***

See AEDC Fellows photos on page 4.

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HIGH MACH
Arnold Air Force Base

Col. Rodney Todaro
Commander

Jason Austin
Chief, Public Affairs

Cynthia Rivera
General Manager, National Aerospace Solutions

High Mach Staff:

Kathy Gattis,
NAS Executive Editor

Raquel March,
NAS Editor

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Core Values

- *Integrity first*
- *Service before self*
- *Excellence in all we do*

Vision

"NAS will be integral to the success of AEDC, the U. S. Air Force's premier aerospace testing facilities, while applying the highest standards of ethics, innovation, safety, security, and quality to daily operations."

Values

- Ethics. We are uncompromising in our integrity, honesty, and fairness.
- Safety & Health. We are relentless in keeping people safe from harm, and we provide a safe and healthy work environment.
- Security. We are disciplined and vigilant in protecting sensitive AEDC information and ensuring system integrity to support national security and our customers.
- Excellence. We thrive on challenge, accomplishment, and mission success.
- Quality. We are passionate about doing our work right the first time.
- People. We have a mission-focused, inclusive workforce who have a diverse skill set, are committed to success, demonstrate innovation and have a can do attitude.
- Culture. Our team is proud of our diversity, inclusiveness, and collaborative work environment. We are proud of what we do and how we do it.
- Relationships. We build positive, long-term business relationships through trust, respect, and collaboration.
- Innovation. We overcome challenges through creativity, perseverance, technology, and flexibility. We actively seek to continually improve.
- Sustainability. We plan and act for the long term benefit of our communities and our environment.

Area youth have a blast at this year's AIAA RocketDay! event

By Deidre Ortiz
AEDC Public Affairs

The second annual RocketDay! Competition for area youth was held June 17 at the Hands-On Science Center (HOSC) in Tullahoma.

The event, sponsored by the Tennessee Section of American Institute of Aeronautics and Astronautics, and the Arnold Air Force Base Science, Technology, Engineering and Mathematics (STEM) Center, featured various contests and activities for families. Youth taking part in the competition ranged from toddlers to high school students.

As part of the event, the Cool-Two Rocket Competition was once again held. This competition invites students from fifth grade through high school to create an elaborate, innovative rocket from a two-liter bottle. Entries included everything from flying pigs to black widow spiders. Some rockets used homemade systems made with PVC with a rubber stopper and bicycle pump while others used materials and equipment obtained from the Arnold AFB STEM Center, which enabled bottle pressures of up to 80 pounds per square inch and launches of greater than 100 feet in the air.

First place was won by a solid traditional design, created by Bradley Escue, which wowed the judges by its high lofting flight with a perfectly stable ballistic trajectory. Zack Sheeley took second place with his elaborate black widow design which had glowing red eyes and spit out red water during its maiden flight. Third place was won by Clay Taylor, with his flying pig, complete with a rounded-snout from which a parachute deployed.

The first and second place winners won drones and the third place winner received a gift certificate for the Hands-On Science Center gift shop.

Dr. Taylor Swanson, member of the AEDC Analysis and Evaluation Branch and volunteer for the event commented that RocketDay! 2017 was enjoyable for both participants and event volunteers.

"Attendance this year was greater than last year and we hope this trend continues," Swanson said. "One of the two liter rockets was made to look like a pig and another to resemble a spider. At what other event can you see a pig fly?"

Deb Wimberly, director of the HOSC, said it was an honor to host the event.

"Thank you AIAA for hosting the second annual Rocket Day at the Hands-On Science Center," she said. "It was a beautiful, sunny Saturday, and a great time was had by both kids and adults."

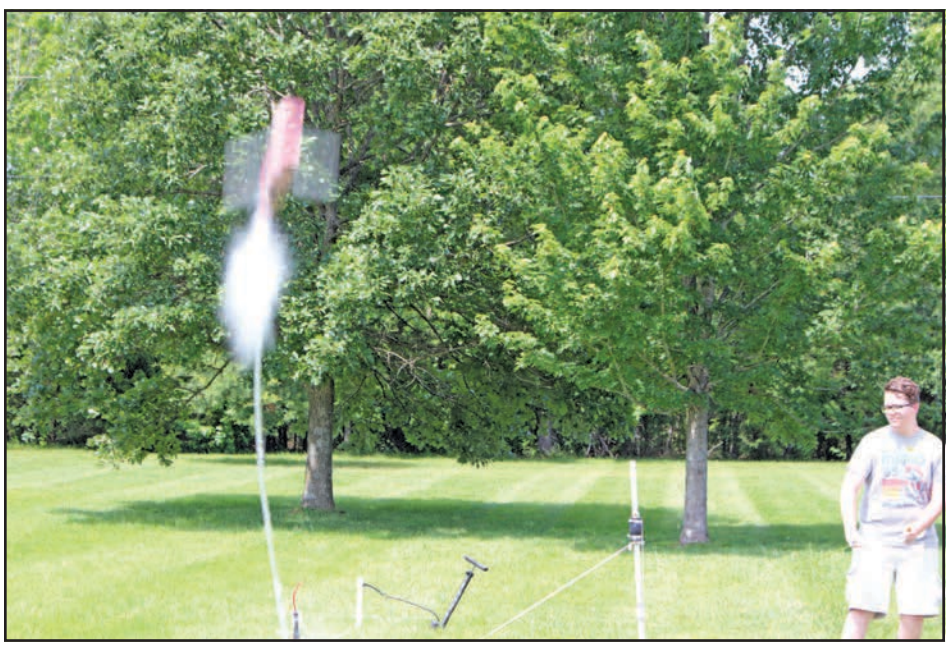
Col. Raymond Briggs, Chief of the AEDC Test Sustainment Division and volunteer for the event added, "The creativity of the Cool-Two entrants was inspiring. It was a lot of fun to talk to the kids on where they gained their inspiration, what gave them trouble, and how they thought their rockets performed. Good event."

Dr. Joe Sheeley, AEDC technology engineer and RocketDay! event organizer, said even more activities are planned for the 2018 competition.

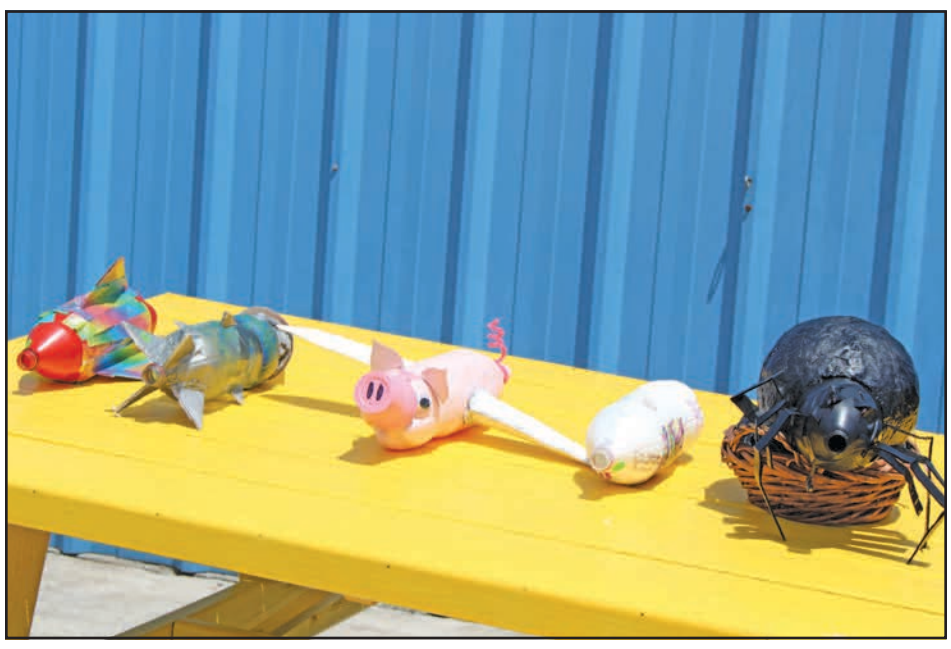
"Next year we're planning to expand the competitions at the event," he said. "We'll have a contest called 'recycled rockets' where competitors build static models of existing or whimsical spacecraft using things like cans, bottles and popsicle sticks. We will also expand into drones, adding perhaps a drone race and a yet-to-be-defined competition called 'drone wars,' in which teams will compete with multiple drones to move objects around in some sort of game area."

Sheely also thanked Jere Matty, Arnold AFB STEM director, as well as the Tennessee Section of AIAA members for their continued support of the event.

The first place winner at the 2017 RocketDay! event was Bradley Escue, whose rocket wowed the judges by its high lofting flight with a perfectly stable ballistic trajectory. RocketDay! was held for area youth on June 17 at the Hands on Science Center in Tullahoma. Pictured left to right are: Joe Sheeley, RocketDay organizer; Deb Wimberly, director of the Hands-On Science Center; and Escue. *(Courtesy photos/Tanya Sheeley)*



Several water and air rocket launchers were setup at RocketDay! allowing participants to launch rockets, ranging from a homemade system made with PVC with a rubber stopper and bicycle pump to a system from the Arnold Air Force Base STEM Center which enabled bottle pressures of up to 80 pounds per square inch and launches of greater than 100 feet in the air. Pictured is Clay Taylor with his flying pig. RocketDay! was held June 17 at the Hands-On Science Center in Tullahoma.



The Cool-Two entries at the RocketDay! competition, shown here, ranged from a flying pig to a black widow spider. About 30 area youth participated in RocketDay! held June 17 at the Hands-On Science Center in Tullahoma.

SUPPORTING *from page 1*

AGM-154 Joint Stand-off Weapon, GBU-32 (1,000-pound Joint Direct Attack Munition) and Paveway IV, from internal and external weapons stations of the Short Take-off and Vertical Landing and Carrier Variant versions of the JSF aircraft. Test data included store freestream, pseudo-freestream (i.e. aircraft model in tunnel), aerodynamic grid, captive trajectory and captive loads. Results from the test have supported internal and external weapons separation characteristic evaluations and structural analyses for various aircraft weapons loadings.

The Air Force's Global Hawk and Unmanned Combat Air Vehicle have also used AEDC latest technology for test before flight, such as Pressure Sensitive Paint technology. The B-2 Spirit bomber is another that has undergone store separation testing to validate conventional weapons in the AEDC Propulsion Wind Tunnel facility.

Other aircraft tested in AEDC test facilities over the years include A-10 Thunderbolt II, F-14 Tomcat, F-15 Eagle, F-16 Fighting Falcon, F/A-18 Hornet and F/A-18 Super Hornet, F-105 Thunderchief, F-111 Aardvark, F-117A Nighthawk, C-5 Galaxy, C-17 Globemaster III, C-141Starlifter, B-1B Lancer, B-2 Spirit, B-52 Stratofortress, B-58 Hustler, X-15, X-29, X-32 and X-33, X-35, XB-70 Valkyrie.

Smoking Policy

1. The following revised Arnold AFB smoking policy is effective immediately and applies to all individuals on Arnold AFB.
2. Traditional Tobacco products (e.g. cigars and cigarettes):
   a. Smoking is permitted solely in Designated Tobacco Areas (DTAs) identified by designated signage. If no signage exists, smoking is not permitted in that area. It is the responsibility of all smokers to keep DTAs clean of cigarette butts.
   b. Tobacco use on the Arnold AFB Golf Course is permitted, but discouraged based on the health hazards of tobacco use and secondhand smoke. No smoking is permitted within 50 feet of golf course buildings except in the approved DTA.
   c. Smoking in government-owned/leased vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time; however, at no time will personnel discard cigarette butts outside their vehicle.
   d. For government employees, the fact that a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the current supervisory and personnel policies that afford all employees the same break opportunities consistent with good work practices and accomplishment of the mission.
3. Smokeless Tobacco products (e.g. snuff and dip):
   Smokeless tobacco products are not to be restricted to DTAs. Smokeless tobacco use will be permitted in all workplace areas (inside and out) subject to reasonable safety and sanitary conditions. Specifically, containers of tobacco waste product, including sealed containers, must not be left unattended or disposed of in trash receptacles. Users of smokeless tobacco must flush tobacco waste down the toilet.
4. Electronic Cigarettes (also known as "e-cigs"):
   Pursuant to Air Force Instruction (AFI) 40-102, Tobacco Free Living, e-cigs are considered to be equivalent to tobacco products; however, e-cigs are not restricted to DTAs and are allowed to be used outdoors at a minimum distance of 25 feet from building entry/egress points. (This policy is dated July 27, 2016)

Action Line

Team AEDC

I believe in free and open communications with our Team AEDC employees, and that's why we have the Action Line available. People can use the Action Line to clear up rumors, ask questions, suggest ideas on improvements, enter complaints or get other issues off their chests. They can access the Action Line via the AEDC intranet home page and by calling 454-6000.

Although the Action Line is always available, the best and fastest way to get things resolved is by using your chain of command or by contacting the organization directly involved. I encourage everyone to go that route first, then if the situation isn't made right, give us a chance.

Col. Rodney Todaro
AEDC Commander

Arnold AFB Natural Resources harvesting comes with some guidelines

By Raquel March
AEDC Public Affairs

When local residents or transient visitors pass through the Arnold Air Force Base Natural Resources area, they may have an intent to pick blackberries or gather firewood.

Before any of these actions begin there are some guidelines residents and visitors must follow.

According to the Integrated Natural Resources Management Plan, blackberries and blueberries may be harvested by the public for personal consumption only in areas that are deemed safe and do not interfere with military missions. A permit isn't required for harvesting blackberries or blueberries at Arnold.

The sale of firewood permits to the general public for $5 is conducted through the Arnold AFB Services office for cutting on base property. Instructions and terms of use are provided in the permit.

Permittees have two weeks from the date of purchase to exercise the permit. No firewood cutting is allowed on weekends during the deer hunting season. Only downed trees may be cut on site and must be cut to firewood length. Log length wood may not be removed and cut off-site. Individual permit holders may not remove more than five truck- or trailer-loads of firewood per year. Permittees may neither sell nor exchange any cut material. The permit must be kept in the possession of the permittee at all times while cutting, loading and hauling firewood and are subject to a compliance inspection by Arnold AFB or the Tennessee Wildlife Resources Agency at any time.

Permittees cutting fire wood are required to remove all cut tops and debris from roadways and drains and are required to comply with applicable governing regulations, federal state and local law, and safety standards.

It is not lawful to harvest any other plants or forest products within the 40,000 acres at Arnold.

Remember Safety

When harvesting items at Arnold, there are some safety precautions to keep in mind.

Anyone planning to enter into the lands and forest of Arnold AFB should stop at one of the two Tennessee Wildlife Resource Agency, or TWRA, Hunters Information Kiosks to obtain latest local conditions, safety information, hunting season dates and indigenous wildlife materials, and warnings. When coming from Tullahoma traveling East on Wattendorf Highway, a kiosk is immediately on the right at the corner of Harton Boulevard as you enter the base property. Another kiosk is located on the first right gravel road as you exit Interstate 24 traveling west on Wattendorf Highway and enter base property.

Arnold AFB was used for Army live-fire training during WWII and unidentified explosive ordinance, known as UXOs, still exist today. Designated walking trails and recreational areas have been swept and cleared of UXOs.

Items such as mortars, rockets, grenades and anti-tank mines are still occasionally found by hunters and hikers in the forest of Arnold AFB even after years of munitions remediation programs efforts to locate and dispose of such items. Always remember the golden rule – If you didn't drop it, don't pick it up. More information on identification and how to respond to finding a UXO can be found at a TWRA kiosk. If you have any questions about the munitions remediation program, call 454-4353.

Never go alone, if possible, and always let someone know your plan. Cell phone coverage on Arnold AFB is limited and you may not be able to contact help should you need it. Let someone know exactly where you are going and what time you will return. You can even use Google Maps to pinpoint the destination and give the GPS coordinates to someone else should you fail to return in time.

Stay hydrated and wear the proper clothing and shoes for the environment.

AIAA Tennessee Section presents 2017 Awards

The American Institute of Aeronautics and Astronautics Tennessee Section recently held an annual awards luncheon where professional engineers were recognized for their significant technical accomplishments, outstanding achievements and support to AIAA Section activities.

Jim Burns
Booster Award: In recognition of outstanding advocacy and support of STEM outreach events within the community

Dustin Crider
Booster Award: In recognition of exceptional leadership and service to the AIAA TN Section

Joseph Giuffrida
Billy J. Griffith Engineering Analysis Award: In recognition of exemplary Test & Evaluation support to an acquisition program using a store separation analysis methodology that combines computational modeling and ground test data

Doug Garrard
Special Award: For technical contributions and orchestrating facility requirements for the first Aerodynamic and Propulsion Test Unit direct connect test

Sara Rhodes
Special Award: For outstanding wind tunnel test support leading to the successful demonstration of a prototype swirl generator

Chris Rudolf
Special Award: For developing and applying innovative measurement techniques in support of arc heater test facilities

Mark Smith
Special Award: For his leadership and technical contributions in completing rigorous facility analyses to demonstrate the mid-pressure arc heater capability

Joseph Sheely
The General H. H. Arnold Award: In recognition of his outstanding contributions toward advancing the state of the art of the aerodynamic and astronautical sciences

David Beale
The General H. H. Arnold Award: In recognition of his outstanding contributions toward advancing the state of the art of the aerodynamic and astronautical sciences

Dogwood Ridge opens for lodgers

John McKelvey, Arnold Air Force Base Services Branch, AEDC Commander Col. Rodney Todaro and David Wilhite, Arnold AFB Civil Engineering Branch, cut the ribbon at the grand opening and ceremony June 20 for the Dogwood Ridge recreation area at Arnold Air Force Base. Dogwood Ridge has four fully equipped cabins with access to Woods Reservoir shore and beach area. Each cabin has heat and air, a kitchenette, bathroom, downstairs and loft bedroom, living room, and dining area. All cabins have a double bed, two twin beds and a futon which folds out to a double bed. ***(U.S. Air Force photo/Rick Goodfriend)***

Participants take a tour of a cabin during the Dogwood Ridge recreation area grand opening and ribbon cutting ceremony June 20, 2017 at Arnold Air Force Base. ***(U.S. Air Force photo/Rick Goodfriend)***

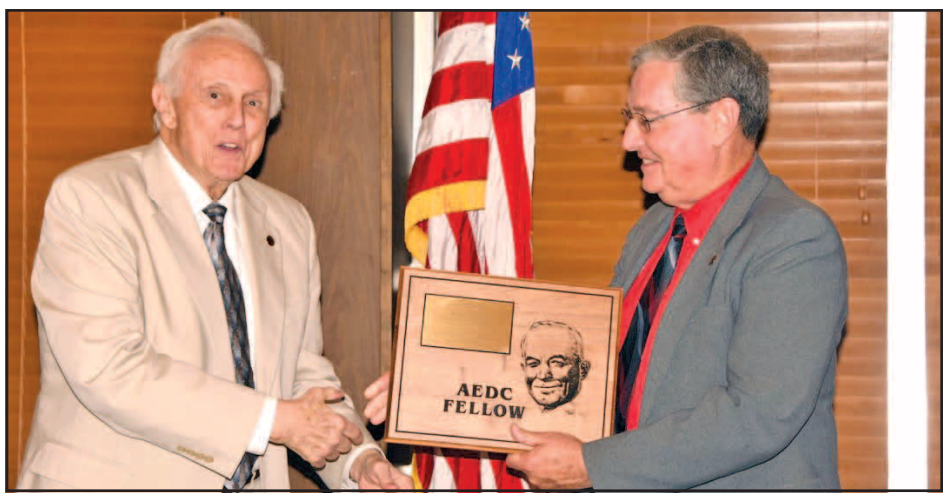
Five inducted at AEDC Fellows Banquet

Five current and former AEDC employees were inducted as AEDC Fellows during a banquet and induction ceremony June 23 at the Arnold Lakeside Center, Arnold Air Force Base. AEDC Fellow Dr. Bill Kimzey presents the AEDC Fellows plaque to new AEDC Technical Fellow Bill Bates. *(Courtesy photos/Claude Morse)*

AEDC Fellow Dr. Bill Kimzey pins Barbara Callens (center) the widow of new AEDC Technical Fellow Dr. Gene Callens while son Eric (right) watches.

Cyndi Clower-Profferer assists AEDC Craft Fellow Bill Scott in pinning new AEDC Craft Fellow Pete French.

AEDC Craft Fellow Bill Scott pins new AEDC Craft Fellow Annette McCullough Painter.



AEDC Fellow Dr. Jim Mitchell presents an AEDC Fellow Plaque to new AEDC Lifetime Achievement Fellow Dave Minto.

What you should know about excavating and trenching safety

By AEDC Safety

The goal of the monthly Safety Condition Campaigns is to identify conditions that make compliance with safety requirements a challenge, to ensure we are in compliance with the Air Force safety standards, and to establish consistency across our work locations. We will continue to send out periodic updates on our results.

We have already completed these focus areas: fall protection, barricades and signs, lockout/tagout, confined spaces, electrical hot work and lifting and rigging. Our efforts have so far resulted in successfully identifying areas that need to be improved. In each case, a short term solution was identified and the process for identifying longer term fixes has begun. Thanks to all who have participated in this campaign to date. Your actions are making our workplace safer.

For the month of July, our Safety Condition Campaign focus is Excavation and Trenching.

Safety, Health and Environmental Standard C6 on Excavations, Trenching and Shoring describes the tasks, activities and actions required when excavations or trenching operations are to be performed at Arnold Air Force Base.

The principal hazard of excavation work is death by suffocation or crushing when exposed soil falls and buries the workers. Workers are also subjected to hazards of falling materials, tools, equipment, and to the hazards involving with digging into energized/pressurized utilities such as electrical, water, steam, fuel and natural gas lines. An additional concern is the potential for an oxygen-deficient atmosphere. Muddy conditions (common to excavations) increase dangers of slips and falls. Hazards of striking against or being struck by objects are increased by congestion of personnel, materials, and equipment. Additionally, vibrations from heavy equipment or nearby vehicle traffic can cause soil to become unstable and collapse.

Employees are expected to know the hazards associated with their work in and around excavations and ensure these hazards are properly addressed according to training received.

The SHE Standard C6 for Excavations, Trenching and Shoring also has the following requirements regarding exposure vehicles/equipment:

Employees are not normally allowed in an excavation, in close proximity (closer than 10 feet) to heavy equipment, and must remain visible and out of the swing zone while the equipment is digging; however, it is recognized that it sometimes becomes necessary for a person to enter an excavation for the purpose of guiding the equipment operator when digging is required in close proximity to a known buried object, or when an unknown buried object is detected. When it becomes necessary for a person to enter the excavation and be in close proximity to heavy equipment, while it is digging, the following shall apply:

- Contractor Safety and Health shall be notified and shall approve the entry for AEDC employees. This can be accomplished telephonically; in addition, the following is required for all personnel:
  1. A member of supervision/management shall be present, and
  2. When excavation is deeper than 4 feet, the employee shall be protected by adequate protective system(s) and shall not be allowed outside of protected area.
  3. Employees outside of and exposed to vehicular traffic shall be provided with and be required to wear reflective vests or other suitable garments marked with or made of reflectorized or high-visibility materials.
  4. Trained flag persons, signs, signals, and barricades shall be used when necessary.

- Exposure to Falling Loads:
  1. No person shall be permitted under loads handled by lifting or digging equipment.
  2. No employee shall remain near a vehicle being loaded or unloaded. Operators may remain in the enclosed cab of the vehicle.

The Safety Condition Campaign for August is scaffolding.

ICBM Country: Ogden Air Logistics Complex restoring Air Force's nuclear launch facilities

By Micah Garbarino
75th Air Base Wing Public Affairs

A new storage container used for maintaining missile launch facilities and control centers sits on display Jan. 25 at Hill Air Force Base, Utah. *(U.S. Air Force photo by Todd Cromar)*

HILL AIR FORCE BASE, Utah – *Editor's Note: Hill Air Force Base units are helping ensure the nuclear triad remains an effective strategic deterrent now and into the future. This is the first in a two part series.*

For more than 50 years, rural American pastures in the Great Plains have housed a key leg in the air, land and sea based strategic deterrent triad – mission-ready Airmen controlling highly-survivable, nuclear-armed Minuteman III intercontinental ballistic missiles.

Depot-level maintenance of the boosters, launch control centers, launch facilities, and key support equipment for the Minuteman III is performed by Hill's 309th Missile Maintenance Group, part of the Ogden Air Logistics Complex.

The Air Force has 150 launch facilities and 15 associated launch control centers "deployed in place" at each of three locations - Malmstrom AFB, Montana; Minot AFB, North Dakota; and F.E. Warren AFB, Wyoming. The Airmen and ICBMs are "on strategic alert" around the clock to respond to orders from the President.

To comply with the New START treaty, the United States is reducing the number of ICBMs that are on strategic alert from 450 to 400 leaving 50 launch facilities in reserve. This enables the Air Force to plan and execute a Programmed Depot Maintenance (PDM) effort for the first time in the life of the weapon system.

The launch facilities are underground silos, each with a 110-ton blast door for protection. All of the silos are networked together and controlled by Missile Combat Crew members in underground blast-proof launch control centers.

This is the first time since 1971, when the Minuteman III first became operational at Minot AFB, that a portion of the Minuteman III fleet is being relieved of its combat assignment long enough to receive PDM in the same way aircraft have for decades.

"We're taking advantage of that drawdown to restore vital hardness-critical systems to full mission capability – repair water leaks, mitigate corrosion, and generally posture the weapons system to remain safe, secure and reliable until the Ground Based Strategic Deterrent program (next generation ICBM) can achieve full mission capability in the mid-2030's," said Col. Eric Jackson, commander of the 309th Missile Maintenance Group. "These are all things we couldn't do as effectively – or at all – while the launch facility was on strategic alert."

The entire Minuteman III fleet will be inspected and restored during the course of an eight-year cycle. The maintenance process takes about 50 days for each launch facility or launch control center.

The effort targets four major areas through an eight-year cycle: launch facility, launch control center, solid-rocket booster (stages 1, 2 and 3), and liquid-propellant propulsion system rocket engine, said Lt. Col. Lt. Col. Brian Young, product support technical director, at the Air Force Nuclear Weapons Center, in a recently published Air Force story.

Within the launch facilities and launch control centers, there are a variety of components targeted to ensure the readiness and health of the site, including shock isolators, various launcher closure components, overpressure-protecting blast valves and blast doors, and environmental control system components, Young said.

As each of the 50 launch facilities are placed into the rotating reserve status for maintenance, the booster is removed from the launch facility by Airmen from the operating wing and returned to Hill AFB by 309th MMXG drivers, where they undergo programmed depot maintenance.

After the booster PDM is completed at Hill, it is returned to the field and placed in a newly-repaired launch facility which is then returned to strategic alert to make way for the next launch facility to receive PDM.

"As a result of the hard work and diligence of the depot and field maintainers, supported by government and contractor supply-chain partners and guided by exceptional engineers and program managers from the AF Nuclear Weapons Center, the nation can rest easy knowing the Minuteman III and associated systems will remain, ready, alert and combat effective," Jackson said.

ICBM Country: Hill AFB workers play key role in future of strategic defense

By Micah Garbarino
75th Air Base Wing Public Affairs

HILL AIR FORCE BASE, Utah (AFNS) – *Editor's Note: Hill Air Force Base units are helping ensure the nuclear triad remains an effective strategic deterrent now and into the future. This is the second in a two part series.*

The nation needs a robust nuclear deterrent. Not just any missiles, but the most responsive strategic weapon systems in the world.

The Air Force is responsible for two legs of the U.S. strategic nuclear triad, intercontinental ballistic missiles and bombers. Airmen, civilian employees and contractors at Hill AFB are working hard to provide that strategic ICBM need by overseeing the Ground Based Strategic Deterrent program, the ICBM for the future.

Why a new weapon system?

For more than 50 years the Air Force's ICBMs and the Airmen who operate and maintain them have helped ensure peace by operating and sustaining this leg of the nuclear triad.

"We have Airmen right now, as we speak, defending the homeland, and that nuclear deterrent underwrites every military operation on the globe," said Air Force Chief of Staff Gen. David L. Goldfein, in a recent speech prioritizing the nuclear enterprise. He also noted that while conventional wars go on, the major nuclear powers have not gone to war since World War II because of the deterrence nuclear weapons provide.

As nations develop more sophisticated anti-ballistic missile systems, the U.S. needs a weapon system that can effectively survive those capabilities and provide a credible threat. The current ICBM, the Minuteman III, has technology that was developed in the 1960s. Since Minuteman III missiles are no longer in production, inventory will dwindle in the coming years due to testing and attrition issues as the missiles provide near 24/7 alert coverage.

"Future capability requirements drive the need for a new weapon system. Attrition of Minuteman III drives our schedule," said Col. Heath Collins, the Air Force Nuclear Weapons Center's ICBM Systems Directorate's Ground Based Strategic Deterrent System program manager.

However, while the Minuteman III is typical of a system decades past its original design life, Collins is confident they are viable for another 30 years, if required, due to current sustainment and maintenance programs, such as programmed depot maintenance.

What's next?

The Air Force determined the most cost-effective way to increase ICBM

See **DEFENSE**, page 6

'Voice' winner launching AF tour

By Carole Chiles Fuller
Air Force Civil Engineer Center
Public Affairs

JOINT BASE SAN ANTONIO-LACKLAND, Texas (AFNS) – Sundance Head, the winner of NBC's "The Voice" season 11, is ready and eager to bring his original soul country music to Air Force audiences.

As part of its initiative to bring quality entertainment to Airmen and their families, the Air Force Services Activity was just as eager to sign the Texas music artist to a 10-base tour.

"When Sundance Head won 'The Voice' in December, we started to arrange for him to play on Air Force bases," said Jeri White, the AFSVA entertainment program manager. "We selected him because we felt he would appeal to a majority of people, including our younger Airmen."

Head's career has taken off after his victory on the singing competition. He toured with his on-air mentor and country music star, Blake Shelton over the winter. In June, he won the Texas Regional Radio Association award for best new male vocalist and had his first No. 1 hit on the Texas charts with "13 Years," a song he wrote for his wife, Misty; and he played the "mother church of country music," the Grand Old Opry in Nashville, Tennessee, with Shelton.

"We're going to come into town, and, hopefully, we're going to provide one of the best concerts they've ever seen. That's always the goal. We're just a three-piece band. We just play real music with real instruments. We don't have anything looped, don't have anything tracked. We just want to come play real music for a bunch of really amazing people. We can't wait, so come see the show," Head said.

Head said he and bassist, Dropkick Dave Walters and drummer Big Joe Busa are thrilled to be playing for and meeting Airmen and their families.

"Mostly, I just really want to meet our Airmen and shake their hands and thank them for everything that they've done for America. That's the most important thing to me. It's not about me – I understand that, and I want them to know that, too," he said.

Head credits Misty with coming up with the term "soul country" in an effort to get his original music played on the radio and attract booking agencies. Since "The Voice," he said, "Suddenly there are soul country singers all over social media."

"For me, it's just writing really cool songs and singing everything from the depths of your soul and giving your whole heart to every lyric."

Head, who is from Porter, Texas, became an "overnight success" through resiliency, honing his craft and making a living performing in Texas. But what he wanted to do was make an impact on music, so he took a chance and tried out for "The Voice."

"I felt like we had put in the hard work in Texas to make sure we had the stage presence and relatability to the audience that you really could only have perfected through hard work and many, many hours of singing in bars large enough for only 10-15 people, or sometimes only to my wife running sound," he said.

He is the type of entertainer AFSVA seeks. "We want to support rising stars while bringing quality entertainment to our Airmen and their families. These concerts give Airmen and their families the opportunity to attend a concert, at no charge to them, at their base," White said.

Soul country singer/songwriter Sundance Head launched his tour of 10 Air Force installations at Beale Air Force Base, California, June 30. *(Courtesy photo/Meredith Truax)*

Head's tour will include bases that are more remote and isolated, she added.

"Airmen stationed there do not have the same opportunities for entertainment as those stationed in or near metropolitan areas. Another consideration in selecting bases for tour stops is logistics. The concerts should be grouped geographically and fit in with the entertainer's concert schedule," she said.

The tour launches at Beale Air Force Base, California, June 30; and includes Vandenberg AFB, California, July 3; Edwards AFB, California, July 4; Hill AFB, Utah, Aug. 24; Mountain Home AFB, Idaho, Aug. 25; Malmstrom AFB, Montana, Aug. 27; Grand Forks AFB, North Dakota, Sept. 21; Minot AFB, North Dakota, Sept. 22; F.E. Warren AFB, Wyoming, Sept. 24; and Altus AFB, Oklahoma, Oct. 5.

"We are hoping the Air Force tour will be a great experience for him and the installations, so we can send him out to more locations. We encourage bases to give the entertainers a look into our world, a glimpse into an Airman's life and our different career fields. Once the artists experience it, they're hooked on performing for the Air Force because the bases welcome them into the Air Force family," White said.

Other upcoming entertainment tours from AFSVA are with illusionists Mike Super and Jason Michael. Super is touring 18 locations in July and August and Michael is touring in September and October. Both provide family-friendly shows, which have been well-received at installations previously, White said.

DEFENSE *from page 5*

capabilities was to acquire an entirely new weapon system, the GBSD. Developing and fielding this system has been called a "foundational" priority by service leaders.

"The warfighter needs these capabilities and we can't just make incremental improvements to Minuteman III. It would be like taking your VHS player and trying to make it a Blu-Ray player by swapping out parts," Collins said.

Government and contract workers at the ICBM Systems Directorate already sustain the Minuteman III and all the associated systems. Now, around 300 of them are playing a large part in development of the future ICBM. Fifty more Air Force civilians are being added this year.

"It's a big program – 400 missiles, 450 silos across five different states, control centers, command and control infrastructure, thousands of miles of cables, transportation equipment," Collins said. "While we'll use some of the existing infrastructure, like the silos, the entirety needs to be engineered for the new missile."

Who will build it and what's Hill AFB's role?

The new weapon system will be produced by a defense contractor, selected by the Air Force after a design competition. To begin the process, the GBSD program office at Hill AFB created a library for the bidders with hundreds of documents, along with a weapon system specification and capability requirements to guide the companies in their design process.

"We've provided a wealth of information. Even before we presented the request last year, we released five draft requests for proposals to industry and received comments back. We had more than 250 discussions with industry to review the request," Collins said. "We want to make crystal-clear they understand exactly what the government is looking for. We are being as transparent as possible to better inform them and, in turn, receive better proposals from them."

The program is currently in the Technology Maturation and Risk Reduction phase, which means defense contractors are simultaneously preparing "end-to-end" preliminary designs of a full weapon system. Up to two of the companies will be awarded 36-month development contracts by the end of this fiscal year.

Eventually, the competition will be narrowed to one supplier who will finish the final design of the weapon system and produce missiles to be tested and fielded. The plan is for the first missiles to be produced by the late 2020s and fielding will be completed in the 2030s, Collins said.

During the entire time, the men and women of the ICBM Systems Directorate will continue to oversee the process.

"Hill is ICBM country. We're very humbled by the opportunity we have here and very honored to do it," Collins said. "We have a lot of work ahead of us but this workforce is very driven, very committed. It means a lot to us. It means a lot to Hill AFB and it's going to mean a lot to this Utah community."

Collins says it's hard to say exactly how many new jobs the program will bring to Utah but there will definitely be an increase during the decade-long overlap while GBSD is rolled out and Minuteman III remains at the ready.

It's likely the prime contractor, support contractors and other government agencies will need workers at Hill AFB to support the GBSD program, which is scheduled to remain in service into the 2070s.

Cleared hot: When predators and reapers engage

An MQ-9 Reaper sits on the flight line Nov. 16, 2016, at Creech Air Force Base, Nev. The MQ-9 provides persistent attack and reconnaissance capabilities for combatant commanders and coalition forces involved in 24/7 year-round combat operations abroad. ***(U.S. Air Force photo/Airman 1st Class James Thompson)***

By Airman 1st Class James Thompson
432nd Wing/432nd Air Expeditionary Wing Public Affairs

CREECH AIR FORCE BASE, Nev. (AFNS) – Following the mission brief and pre-flight checks, an aircrew consisting of an officer pilot in command and a career enlisted aviator sensor operator observe a target in an area of responsibility overseas from a cockpit in the U.S. and waits for the green light from a joint terminal attack controller on the ground.

Anticipation heightens as the JTAC confirms the target and gives the aircrew the clearance to attack. The aircrew then reviews checklists before engaging, adrenaline begins to seep in and the whirring from electronic components in the cockpit recedes from awareness. Their concentration sharpens and as the pilot squeezes the trigger, a laser-guided AGM-114 Hellfire missile is released. The sensor operator hones in on the objective at hand by keeping the laser designator crosshairs precisely over the target and guiding the missile.

Unbeknownst to most people, the multi-role MQ-1 Predator and MQ-9 Reaper strikes are coordinated through specific routing chains well before weapons employment to ensure the fulfillment of combat directives, combatant commanders' requirements and overall rules of engagement.

These aircrews follow the same weapons employment process as those in other traditional fighter and bomber aircraft.

"Anytime a munition is employed or dropped by any platform to include our MQ-1s and MQ-9s, those rules of engagement must be satisfied," said Maj. Brian, the 432nd Wing/432nd Air Expeditionary Wing Weapons and Tactics assistant director of operations. "They define the specific requirements as far as who, what and when something can be targeted for the employment of a weapon."

Brian explained that, like other aircraft, there are two different types of strikes that occur in theater. One is a deliberate strike and the other is a dynamic target situation.

"The deliberate strikes are all targets that have been nominated, gone through a vetting process and ran through the Combined Air Operations Center for validity," said Brian. "They go through target nominations and then it's passed off to targeteers, as well as the individual units, that will execute those strikes to conduct the weaponeering and through the CAOC, they satisfy the legal requirements in terms of ROE, weapon alignment and specific collateral damage estimation for that target."

Upholding the laws governing the use of military force ensures that the enemy can be eliminated without harm to civilians and friendly forces while, also, strictly aligning with the Law of Armed Conflict to meet legal and moral requirements.

Brian said most of the 432nd AEW strikes are conducted in a dynamic target situation.

"Dynamic targeting is executed using close air support doctrinal procedures," said Brian. "Within the CAS doctrinal procedures, once a target is identified on the ground, a JTAC contacts the aircrew and starts to generate a plan as far as how they're going to conduct and execute that strike."

A dynamic target strike is a coordinated effort between the aircrew and a ground team within a joint operations center.

"Once we've found valid targets, I'm going to notify the JTAC and from there he's working on his side to get approval for the strike," said Capt. Chris, a 42nd Attack Squadron MQ-9 pilot.

Along with communicating with the aircrew, the JTAC coordinates with his ground force commander.

"The ground force commander is working in sync with a targeteer for collateral damage estimation and a judge advocate to ensure that Law of Armed Conflict in terms of proportionality, use of force and all legal requirements are satisfied," said Brian. "Once he confirms that we have a valid target and the proportionality and collateral damage estimation is acceptable based on the commander's intent and guidance, he then seeks target engagement approval authority from the first one-star in his chain of command."

If the situation and circumstances are aligned the commander authorizes the strike and at that point the aircrew is given clearance to then engage the target using the designated weapon as decided by the aircrew, Brian said.

"When the strike is approved, he will pass me a game plan 9-line. At that time, I will brief the sensor exactly how this weapons delivery will be carried out," said Chris.

The CAS doctrinal procedures apply to all aircrew performing close air support, regardless of the aircraft used.

"It's [CAS procedures] the same for all U.S. military," said Brian. "It's a joint publication that defines those procedures and how it works."

Certain factors determined by the CAS doctrine and the varying length of time in the confirmation of targets, emphasize the need for persistent and precise attack capabilities provided by the multi-role MQ-1s and MQ-9s.

"Personally, I've eliminated enemy forces that were engaging friendlies 15 meters away, so it's extremely important to employ quickly and effectively and the MQ-9 is one of the best assets in the Air Force to accomplish this," said Chris.

The routing chain from target identification to strike can take anywhere from a few minutes to several hours depending on the significance and situation of the strike. Any strike done with a JTAC goes through the same process regardless of what platform is employing the weapon.

"One advantage that the MQ-1 and MQ-9 has over some of our more traditional aircraft is its persistence," said Brian. "Since our mission durations are so long, we're able to maintain custody of that target for an extended period of time and provide an in-depth characterization of the target, ensuring the target is hostile."

Brian added, because of their sensor capabilities and persistence over a target, MQ-1 and MQ-9 aircrews are able to integrate the entire targeting process from identification to final destruction and strike evaluation into a single platform versus requiring different multiple assets to accomplish the mission.

Brian went on to say that MQ-1 and MQ-9 aircrews receive special training to understand ROE as well as the commander's guidance and intent for a particular strike; this complete understanding demonstrates a high level of proficiency in flying daily combat missions to support multiple theaters abroad.

Taking the fight to the enemy requires all aircrews to follow strict guidance in order to eliminate the enemy and safeguard friendly and coalition forces. The aircrews flying the multi-role MQ-1s and MQ-9s follow the same doctrine in support of 24/7 combat operations daily while adding an extremely professional and precise persistent attack and reconnaissance force to the Joint and coalition team engaged on the battlefield.

Connection saves lives: Be there to help prevent suicide

By Peter Holstein
Surgeon General Office of Public Affairs

FALLS CHURCH, Va. (AFNS) – You can make a difference for someone struggling with suicidal thoughts with as little as eye contact and a friendly smile, an arm around the shoulder, or a kind word at the right time.

Everyone has a role to play in preventing suicide, a key theme of the Defense Department's #BeThere Campaign, which encourages making a difference through every day connections.

"Connection saves lives," said Col. David Linkh, the Air Force Suicide Prevention Program manager. "Isolation, alienation and feeling of a lack of belonging places folks at risk."

Suicide is a major public health concern in the U.S., and for the Armed Forces. One of the most important and simplest ways to fight back against this threat is to build connections with people in your life, and make sure that people don't feel alone and isolated.

"If a fellow Airman seems to be struggling, make simple gestures," said Linkh. "Have lunch with them, talk to them and include them. Ask them how they are doing, or about their family. Stop by their desk and share a little bit about yourself."

In the right circumstances, those simple, everyday actions really can save a life.

Recognizing that someone is at risk of suicide isn't always possible. There isn't always an obvious or consistent sign that someone may be struggling with suicidal thoughts. People can hide or compartmentalize the underlying stress that lead to suicidal behavior, but there are things you can watch out for.

"We tend think in terms of two things – risk factors and warning signs," said Linkh. "Risk factors are some of the larger life factors that we sometimes see, like relationship, legal, financial or workplace issues. Warning signs are more behavior changes. That can include mood swings, irritability, anger, depression or social withdrawal."

This can be especially true for people who are usually engaged and outgoing. It can be a concerning sign if they start avoiding eye contact, skipping social events and stop associating with family, friends or coworkers. Drug or alcohol abuse is another critical indicator that a person may be dealing with issues that could lead to self-harm.

There are some other warning signs that a wingman, supervisor or colleague might notice as well.

"Changes in work behavior, like showing up late to work, unexplained absences, or missed deadlines by folks who were previously on the spot can be concerning," said Linkh. "Really, any change in behavior, especially one that suggests the person may be struggling in areas of their life. People shouldn't be afraid to engage on these issues in a supportive way."

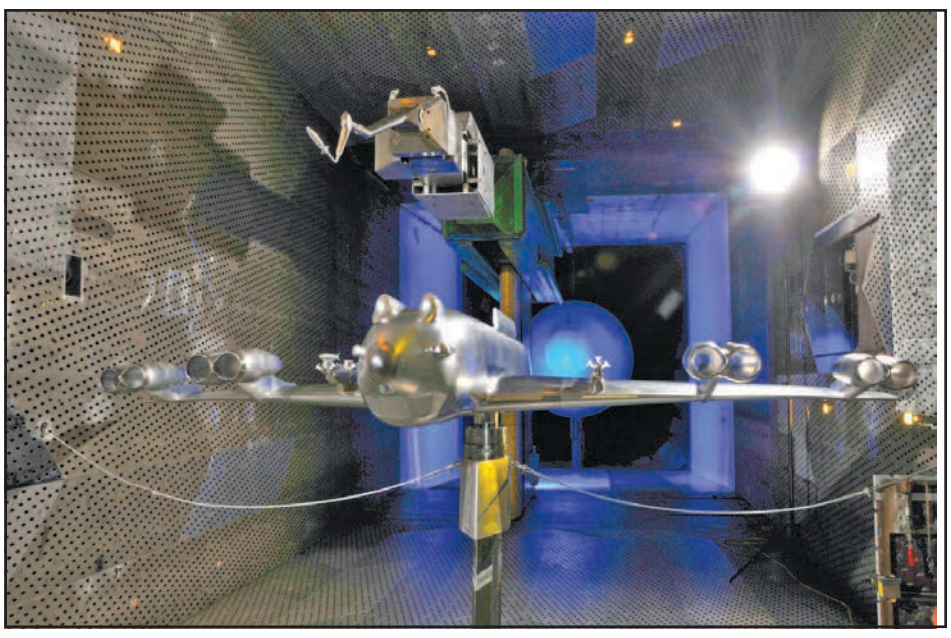
If you are concerned about a person, start by just talking to them. It may seem simple, but not only can it help you get a sense of whether something is bothering them, it also reinforces relationships and can keep the person from feeling isolated. Being attentive to someone struggling with suicidal thoughts or depression can encourage them to open up and tell you that they are having trouble.

"We can't always know what our wingmen or coworkers are dealing with," said Linkh. "Taking the time to know one another and go out of our way to help each other can help change the culture. Small acts of kindness, small moments of connection can make us all safer."

For more information about suicide prevention and additional resources, visit the Air Force Medical Service Suicide Prevention webpage, or the U.S. Air Force Wingman Online webpage. If you are having suicidal thoughts or are worried that someone you know may be about to engage in self-harm, call the Military Crisis Line at 1-800-273-8255 and press "1" for assistance.

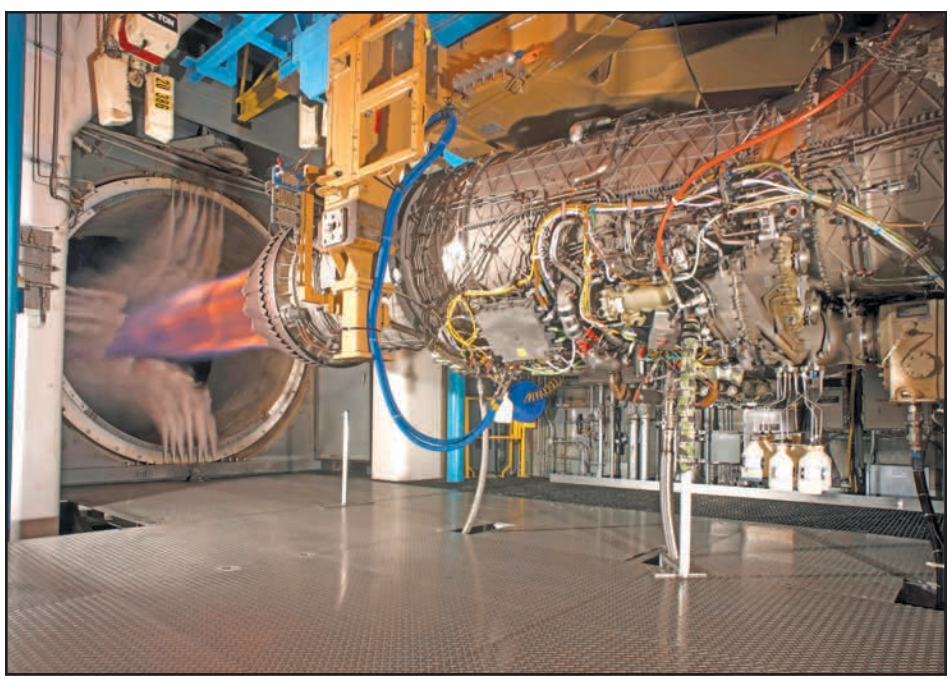
AEDC Contributions to the warfighter

(U.S. Air Force photos)



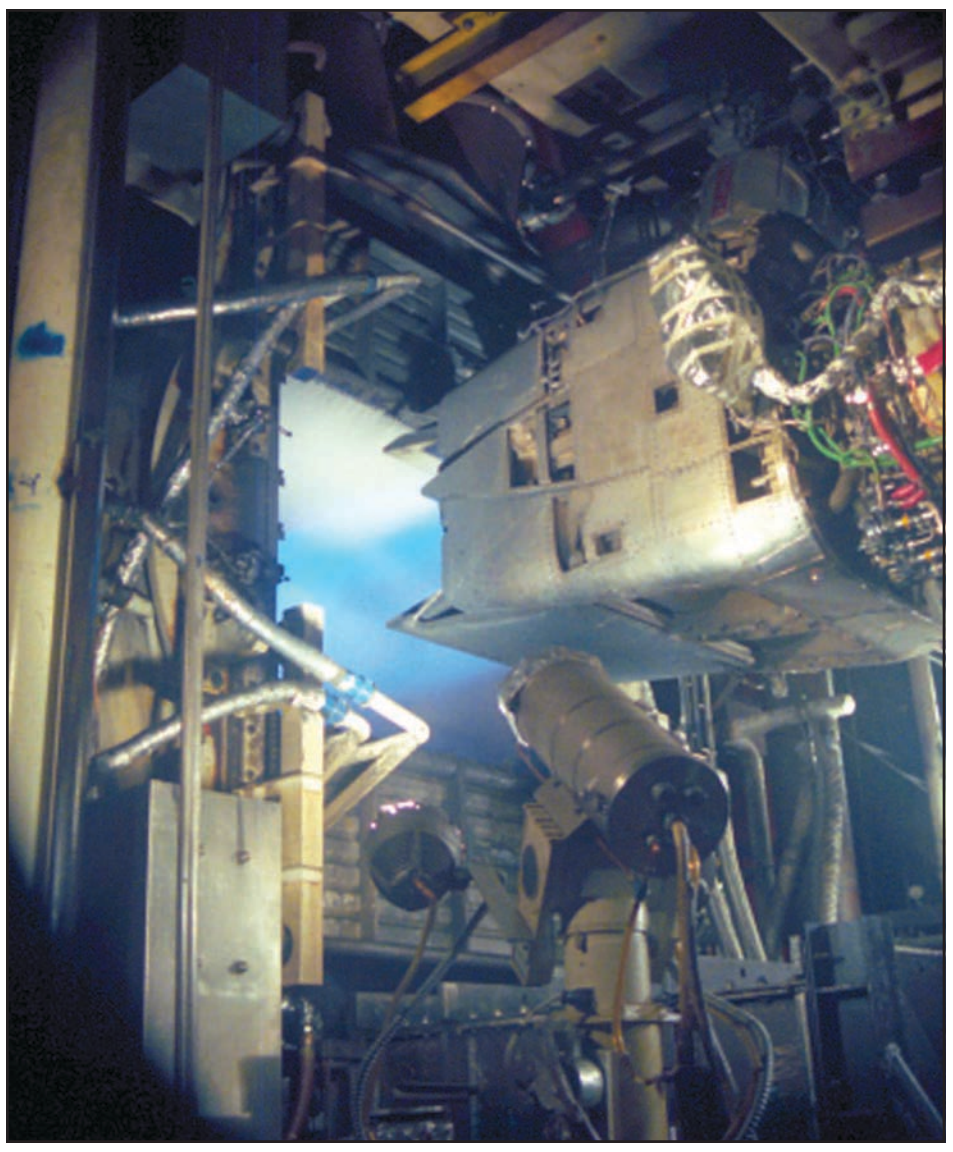
B-52 Stratofortress tested in the AEDC Propulsion Wind Tunnel 16-foot Transonic Tunnel in 2011.

AEDC outside machinist makes adjustments to a model of a GBU-31 Joint Direct Attack Munition (JDAM) before F-35 Lightning II store separation testing in the four-foot transonic wind tunnel in 2007.

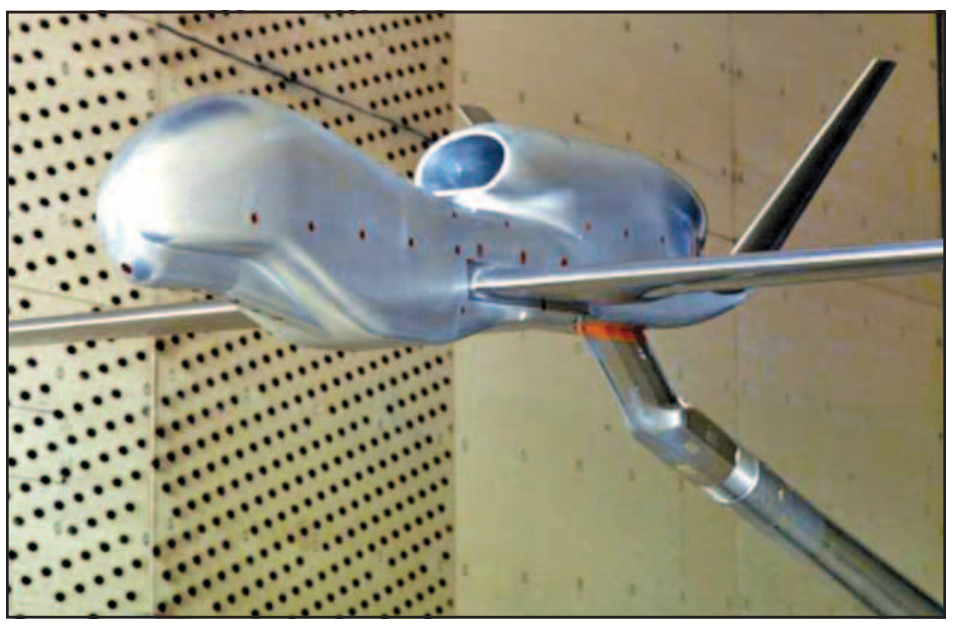


Pratt & Whitney F135 engine tested in the AEDC Engine Test Facility SL2 test cell in 2014.

A scale model of the F-22 being prepared for testing in the AEDC 16-foot transonic wind tunnel at Arnold AFB in 1992.



Pratt & Whitney YF119 prototype engine for the F-22 Raptor with a demonstrator nozzle running in the AEDC Aeropropulsion Systems Test Facility in 1989.



In 1996, a scale model of the Global Hawk was tested in the AEDC 16-foot transonic wind tunnel.

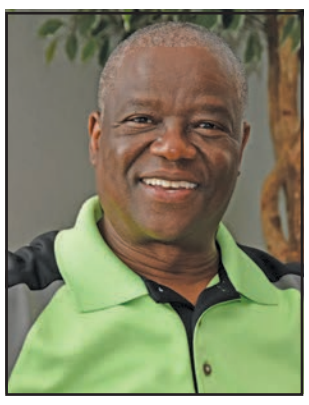
Heard, leaving how he arrived

By Raquel March
AEDC Public Affairs

After working almost 45 years for AEDC at Arnold, software engineer Tommie Heard is crossing over to test the retirement waters.

As he sat in the Administration and Engineering building lobby for the last time, he remembered how it all started for him at AEDC – in the lobby.

"I came to AEDC with a friend who had an interview," he said. "While I waited in the A&E lobby for my friend, the man conducting the interview approached me and asked if I wanted to interview. I wasn't looking for a job when I came here."



Tommie Heard

Heard remembered that he wasn't dressed for an interview because he wore bell-bottom jeans and a large afro. He was offered a job and began working as a technical assistant July 16, 1972.

Heard is a resident of Murfreesboro. His last day at AEDC was June 23.

AEDC software engineer Tommie Heard remembers his first day at Arnold Air Force Base almost 45 years ago as he departs on his retirement day June 23. *(U.S. Air Force photo/Rick Goodfriend)*

AEDC Milestones

Janice Willis
45 years

45 YEARS
Mike Bennett, QuantiTech
Anthony Taylor, NAS
Janice Willis, NAS

35 YEARS
Clara Sanders, NAS

25 YEARS
Ashley Dement, NAS

20 YEARS
William Isbell, NAS

10 YEARS
Tammy Denton, Chugach
Robert Hale, NAS
Jennifer Johnson, Chugach
Alan Jones, AF
Ezra Perkins, NAS
Kimberly Smith, NAS

5 YEARS
Robert Hurt Jr., NAS

INBOUND MILITARY
Capt. Janet Ashitey
Lt. Col. Andrew Barker
Col. Scott Cain
Lt. Col. David Hoffman

OUTBOUND MILITARY
Lt. Col. Daniel Watson

RETIREMENTS
Charles Bryant, NAS
Stuart Coulter, NAS
Jimmy Harman, Chugach
Tommie Heard, NAS
Charles Lester, NAS
James Nichols, AF
Stephen Northcutt, NAS
Jeffery Utley, NAS

NEW HIRES
Jack Burdine, NAS
Lance Grossarth, NAS
Heather Kostak, AF
Benjamin Manipadam, NAS
Jesse Peery, NAS
Barry Porter, NAS
Dane Rape, NAS
Chelsea Stovall, AF
Stephen Vannoy, NAS
Michael Vasquez, AF
Chris Warner, AF
David Yoder, QuantiTech
Karen Zarecor, QuantiTech

PROMOTIONS
Gary Fulmer, ASO
Warner Holt, ASO
Jeff Stewart, ASO

CERTIFICATES
Susan Drinnon, Certified Information Systems Security Professional (CISSP), AF

Christine Hughes, Certification from Air Command and Staff College

Physical therapists keep service members fit to fight

By Tech. Sgt. Jonathan Hehnly
386th Air Expeditionary Wing Public Affairs

SOUTHWEST ASIA (AFNS) – In a deployed environment, injuries happen. Whether they occur in the performance of duty or through the course of physical exercise, they have the potential to impact the mission.

Each individual in the military, and their ability to perform their duties, plays an important role in the success of the greater mission. For the two-man physical therapy element at the 386th Air Expeditionary Wing, it is their role to keep members fit to fight.

"What we do is actually keep guys working," said Capt. Grant Tong, the 386th Expeditionary Medical Group physical therapy element chief. "When injuries occur, we help them return to duty as quickly as possible. We help decrease the down days for fliers and keep the security forces members armed. Our mission is pertinent in terms of keeping the mission running."

The physical therapy clinic at the 386th AEW is relatively new, with its establishment in January 2016. Prior to its implementation, injured members would either have to travel to the nearest Army clinic for treatment, deal with the minor injury, which often caused it to get worse, or in the most severe cases, be deemed not fit to fight and therefore sent home.

Tong said he believes in doing what he can to help keep the service members of all four branches, and coalition forces, in the fight.

"Physical therapy can decrease the severity of the injury along with helping the member actually get better and return to duty quicker," said Tong. "A lot of times if physical therapy was not available, an injured member would suffer an injury that could have been resolved way earlier, and then when they get back home, an injury that could have been very minor turns into something very large and exponential."

Tong and Tech. Sgt. David Garcia, the 386th EMDG physical therapy NCO in charge, provide an array of services to support the permanent party population of two wings and the transient personnel passing through on their way to and from downrange.

The physical therapy clinic's services include musculoskeletal evaluation and treatment, rehabilitative exercise, stretching, neuromuscular education, postural awareness and therapy for pain management. They also offer clinical expertise in orthopedics, strength and conditioning, trigger point dry needling and manual therapy.

"We are one of the most utilized services here at the medical facility," said Garcia. "Some people come out here and start training a little harder trying to reach their fitness goals and they may not be doing the exercises correctly. It's important to have our team on board so we can keep these guys fit to do things safely while they are achieving their goals and to ensure that they can continue doing their jobs they've been tasked to do out here as well."

Anyone can make use of the physical therapy services offered, even if they are not injured. The clinic provides preventive care classes and information on lifting form and techniques and weekly foam rolling and squat classes.

"The physical therapy clinic holds classes on those types of things so even if you are not specifically injured you gain a lot of information that you can take back home to your home station and can continue to maintain throughout your career," said Staff Sgt. Melanie Hernandez, a 386th EMDG physical therapy clinic patient.

On a day-to -day basis Garcia and Tong see approximately 20 patients a day, providing care to everyone from special operatives to the Airman working in the dining facility. Being the only Air Force physical therapy clinic in the region, it saw more than 1,200 patient visits in the past four months, breaking its own record by servicing over 75 people more per month than the two previous rotations.

"When we are not out here handling the mission we have the time to work on personal goals and part of that is maintaining physical fitness," said Hernandez. "Having physical therapy out here teaches you how to do everything that you are trying to do and how to maintain the physical standards but doing it in the right way so that you are not prone to injury. The Air Force wants you top notch 24/7 and physical therapy helps you do that."

July

Information subject to change. Please call to verify.

Services is open to all base employees, to include contractors; all branches of military (active, retired, guard, reserves) and their dependents; DoD civilians (active and retired) and their dependents (includes NAF employees).

Contractor employees are invited to attend in accordance with company policy and supervisor approval.

Admin – 454-7779
ALC – Arnold Lakeside Center, 454-3350
Barber Shop – 454-6987
Café – Café 100, A&E, 454-5885
FC – Fitness Center, 454-6440
GC – Arnold Golf Course, 454-GOLF
Marketing/Sponsorship – 454-3128
MG – Mulligan's Grill, GC, 454-FOOD
ODR/ITT – Outdoor Recreation, 454-6084
Resource Management – 454-7425
RRRP – Recycling, 454-6068
WI – Wingo Inn, lodging, 454-3051

Arnold AFB SERVICES
Combat Support & Community Service

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Arnold AFB Services

Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday

Golf Course Free Youth Clinic Every Wed in July 11am-12pm — ages 6-16 — Sign up by July 1 454-GOLF

Outdoor Recreation MARINA SPECIAL — Rent a Boat 5 times Get 3 hours FREE! gas extra — Now through Sep

1 — **ODR SUMMER HOURS**
2-6pm Mon
10am-8pm Tue/Thu/Fri
8am-8pm Sat/Sun
closed Wed

2

3 — **ODR FamCamp Outdoor Movie** — REGISTERED GUESTS ONLY

July 4th — Café Closed — FC 8am-4pm

5 — **GC Free Youth Clinic begins**

6 — **"THE BOSS BABY"** RATED PG — ALC 6PM — **Free Family Movie Night**

7 — **JAM NIGHT** — ALC 6PM

8

9

10 — Arnold Golf Course & Mulligan's Grill Open to the Public EVERY DAY

11

12 — Fitness Center — **Golden Baton Relay Race** 8am A&E Track. Teams: 4 runners 1 timer, 2 laps each. Prizes: Costumes, Name, Time. *1st 6 teams signed up/completed get shirt*

13 — **Lightning Bug Jar Painting** — ALC crafts n' things — 6-8pm $30 — Register by Jul 10 454-3350

14 — Tell us what you think! ICE Interactive Customer Evaluation ice.disa.mil

15 — **ODR White Water Rafting Trip** — 5:30am-5pm age 13+ — 5 hrs rafting on Class 4 rapids plus lunch provided at Ocoee — ONLY $30 Thanks to R4R! AF Resiliency Programming — Sign up 454-6084 — Military only June 19-26 — All others June 26-July 6 — Limited Spots - Must have 7 to go

16 | 17 | 18

19 — **FC Triple Threat** bench, deadlift, squat — Total combined weight Break 1,000 lbs/men or 500 lbs/women total receive hoodie T-shirts to first 20 — Anytime between 5am-7:30pm

ALC Lunch on the Lake — Baked Chicken 11am-1:30pm — $8.50 M $9.50 NM

20 — **"SMURFS: THE LOST VILLAGE"** RATED PG — ALC 6PM — **Free Family Movie Night**

21 — ALC FAMILY GAME NIGHT — 5:30-8:30pm

22

23 | 24 | 25 | 26 — **Membership Transition starts Aug 1 Get Connected! Watch for details!**

27 — 6pm — ALC Prime Rib Dinner — $30 mbr $40 non RSVP Jul 21 454-3350 — **2 for 1** — min 15 couples required — Two meals include 9oz Prime Rib, Salad Bar, Potato Bar, Dessert, Beverage, and Coffee

28 — **TRIVIA NIGHT CANCELLED**

29 — **ODR Hiking Series** Start of Summer Series — **BUGGYTOP TRAIL** 9am-3pm $7 moderate 4.4mi — *Sign up by Jul 28* Must have 5 to go — Transportation, light snacks, & water provided — Bring your lunch if you want

30 | 31

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ALC Talent Competition — Friday July 28 — 5:30pm Any age Any act — Sign up by July 14 — Services Gift Card Prizes 1st $100 2nd $75 3rd $50 — 454-3350 — Sing ~ Dance ~ Magic ~ Comedy ~ Acrobatic ~ Juggling ~ Music